

What is claimed is:

1. An apparatus for multiple-channel passive dense wavelength division multiplexing (DWDM), the apparatus comprising:

a housing, wherein the housing is capable of being mounted in a front panel of a distribution frame in a switching office;

circuitry contained inside the housing, the circuitry capable of performing multiple-channel passive DWDM by receiving a plurality of inputs and providing one output, the circuitry further capable of providing a non-intrusive monitoring port;

a faceplate attached to the housing, the faceplate having a plurality of openings; and

a plurality of connectors, wherein each connector resides in one of the plurality of openings in the faceplate, each connector having two ends, one end being connected to an input of the circuitry and another end being capable of accepting an input cable,

wherein each of the plurality of inputs is capable of accepting one optical signal of a defined wavelength.

2. The apparatus of claim 1 wherein the circuitry is capable of receiving 13 inputs.

3. The apparatus of claim 1, wherein the input cable is a fiber optic cable.

4. The apparatus of claim 3, wherein the input cable carries a signal of a defined standard wavelength.

5. The apparatus of claim 3, wherein the input cable being capable of carrying an optical signal of a defined wavelength selected from the group of 1530.33 nanometer, 1533.47 nanometer, 1535.04 nanometer, 1538.19 nanometer, 1539.77 nanometer,

1541.35 nanometer, 1547.72 nanometer, 1549.32 nanometer, 1550.92 nanometer,
1552.52 nanometer, 1555.75 nanometer, 1557.36 nanometer, and 1558.98 nanometer.

6. The apparatus of claim 2, where one of 13 inputs is for maintenance purposes.

7. An apparatus for multiple-channel passive dense wavelength division
de-multiplexing, the apparatus comprising:

a housing, wherein the housing is capable of being mounted in a front panel of a
distribution frame in a switching office;

circuitry contained inside the housing, the circuitry capable of performing
multiple-channel passive dense wavelength division de-multiplexing by receiving an
input and providing a plurality of outputs, the circuitry further capable of providing a
non-intrusive monitoring port;

a faceplate attached to the housing, the faceplate having a plurality of openings;
and

a plurality of connectors, wherein each connector resides in one of the plurality of
openings in the faceplate, each connector having two ends, one end being connected to an
output of the circuitry and other end being capable of accepting an output cable,

wherein each of the plurality of outputs is capable of carrying one optical signal
of a defined wavelength.

8. The apparatus of claim 7 wherein the circuitry is capable of providing 13 outputs.

9. The apparatus of claim 7, wherein the output cable is a fiber optic cable.

10. The apparatus of claim 9, wherein the output cable carries a signal of a defined
standard wavelength.

11. The apparatus of claim 9, wherein the output cable being capable of carrying an optical signal of a defined wavelength selected from the group of 1530.33 nanometer, 1533.47 nanometer, 1535.04 nanometer, 1538.19 nanometer, 1539.77 nanometer, 1541.35 nanometer, 1547.72 nanometer, 1549.32 nanometer, 1550.92 nanometer, 1552.52 nanometer, 1555.75 nanometer, 1557.36 nanometer, and 1558.98 nanometer.
12. The apparatus of claim 8, wherein one of 13 outputs is for maintenance purposes.
13. A method for providing relief for interoffice facility (IOF) fiber optical routes without constructing new fiber optical cable facilities, the method comprising:

 mounting a passive WDM module in a shelf of a fiber optical distribution frame of a central office, the shelf having a front side and a back side, the passive WDM module capable of receiving fiber optical cable connectors on a faceplate of the module, wherein each cable connector has a front side and a back side;

 terminating a plurality of incoming fiber optical cables on the back side of connectors in the shelf;

 connecting a plurality of connector fiber optical cables from the front side of the connectors in the shelf to the faceplate of the module; and

 connecting an output connector cable from the faceplate of the module to an outgoing fiber optical connector on the front side of the shelf.
14. The method of claim 13, wherein terminating step further comprises

 receiving a plurality of incoming fiber optical cables from another central office.
15. The method of claim 13, wherein the number of the incoming fiber optical cables are 12.

16. The method claim of 13, wherein the step of connecting an output cable from the faceplate further comprises:

originating an outgoing fiber optical cable from the back side of the shelf to a next central office.

17. A method for providing relief for interoffice facility (IOF) fiber optical routes without constructing new fiber optical cable facilities, the method comprising:

mounting a passive WDM module in a shelf of a fiber optical termination bay of a central office, the shelf having a front side and a back side, the passive WDM module being capable of receiving fiber optical cable connectors on a faceplate of the module, wherein each cable connector has a front side and a back side;

terminating an incoming fiber optical cable on the back side of the shelf;

connecting the incoming fiber optical cable from the front side of the shelf to the faceplate of the module; and

connecting a plurality of output cables from the faceplate of the module to a plurality of outgoing fiber optical connectors on the front side of the shelf.

18. The method of claim 17, wherein terminating step further comprises receiving an incoming fiber optical cable from another central office.

19. The method of claim 17, wherein the number of the outgoing fiber optical cables are 12.

20. The method claim of 17, wherein the step of connecting a plurality of output cables from the faceplate further comprises

originating a plurality of outgoing fiber optical cables from the back side of the shelf to a next central office.

21. A method for providing spare parts in a central office equipped with a plurality of laser transmitters of different frequencies with a spare laser transmitter of a single frequency, the method comprising:

providing a multi-channel passive dense wavelength division multiplexing (DWDM) multiplexer in a transmitting central office, wherein the multi-channel passive DWDM multiplexer comprises

a plurality of input ports, each input port being capable of accepting optical signals of a defined frequency, each input port being connected to a laser transmitter capable of generating optical signals of the same frequency,

a maintenance input port, the maintenance input port being capable of accepting an optical signal of a first frequency that is different from frequencies accepted by the plurality of input ports, and

an output port;

providing a multi-channel passive DWDM de-multiplexer in a receiving central office, wherein the multi-channel passive DWDM de-multiplexer comprises

a plurality of output ports, each output port being capable of outputting optical signals of a defined frequency, each output port being connected to a laser receiver,

a maintenance output port, the maintenance output port being capable of outputting an optical signal of the first frequency that is different from frequencies output by the plurality of output ports, and

an input port;

providing a spare laser transmitter for the transmitting central office, the spare laser transmitter being capable of generating an optical signal of the first frequency;

if one of the laser transmitters fails, replacing a failed laser transmitter with the spare laser transmitter;

connecting the spare laser transmitter to the maintenance input port of the multi-channel passive DWDM multiplexer;

connecting the maintenance output port of the multi-channel passive DWDM demultiplexer to the laser receiver assigned to the failed laser transmitter.